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ABSTRACT

This project was conducted to provide state-adopted Career Merit Achievement Plans (Career MAPs) and program guides for selected trade and industrial programs in Florida. The plans and guides were intended to provide each comprehensive high school, area vocational-technical center, and community college with authoritative guidelines for planning, establishing, and conducting new courses and programs, and/or for changes thereto. These Career MAPs and program guides would provide a standard basis for planning course content, determining teacher certification and qualification, designing facilities and equipment requirements, and for determining other support resource requirements. Specifically, the project developed the following products: (1) 2 copies of recommended changes to program standards for each of 20 occupations; (2) 2 copies of Career Merit Achievement Plans (Career MAPS) for each of 9 occupations; and (3) 2 copies of program guides for each of 20 occupations. The procedures used to achieve these objectives were to establish advisory committees, review the literature, recommend changes to update program standards, design Career Merit Achievement Plan models, and develop program guides. It is intended that the products, when implemented, should result in better programs, improved planning for vocational education programs, an improved means for documenting student achievement, and an improved means for identifying teacher updating needs. (KC)

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FINAL REPORT

Project No. DVE 4-1E11

From September 1, 1983 to August 31, 1984

SUPPLEMENTAL SUPPORT SERVICES FOR INDUSTRIAL-TECHNICAL VOCATIONAL EDUCATION PROGRAMS

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ACKNOWLEDGMENTS

The researchers wish to acknowledge the contributions of the many industry leaders and vocational administrators and instructors who participated in the development of the products of this project. Without their willing participation, this study could not have been conducted. The names and affiliations of the participants are listed in each Program Guide.

Also, recognition is extended to Patsy Agee, Richard Ray, and Tal Rushing of the Florida Department of Education for their continuing support and outstanding understanding and to Joe Mills for his inspiration and leadership.

This project developed Career Merit Achievement Plans (Career MAPs) and Program Guides for selected Trade and Industrial Education Programs. Career MAPs and Program Guides will be developed for other occupational program areas on a priority basis.

Raymond Hill

William E. Taylor

Roger Cantor

ABSTRACT OF THE FINAL REPORT

TITLE OF PROJECT	:	Supplemental Support Services for Industrial Technical Vocational Education Programs
PROJECT NUMBER	:	DVE 4-1E11
PROJECT DIRECTOR	:	Raymond Hill
PROJECT COORDINATOR	:	William E. Taylor
ASSISTANT PROJECT COORDINATOR	:	Roger Cantor
ORGANIZATION	:	The University of South Florida
PROJECT CLASSIFICATION	:	Regular
DURATION OF PROJECT	:	September 1, 1983 to August 31, 1984

PROBLEM

The problem was to respond to the need for State adopted Career Merit Achievement Plans (Career MAPs) and Program Guides for selected Trade and Industrial Programs that would provide each comprehensive high school, area vocational-technical center, and community college with authoritative guidelines for planning, establishing, and conducting new courses and programs, and/or for changes thereto. These Career MAPs and Program Guides would provide a standard basis for planning course content, determining teacher certification and qualification, designing facilities and equipment requirements and for determining other support resource requirements.

OBJECTIVE

The objectives of the project were to develop:

1. Two copies of recommended changes to program standards for each of twenty occupations.
2. Two copies of Career Merit Achievement Plans (Career MAPs) for each of nine occupations.
3. Two copies of Program Guides for each of twenty occupations.

PROCEDURES

The procedures used to achieve the objectives were to establish advisory committees, review the literature, recommend changes to update Program Standards, design Career Merit Achievement Plan models, and develop Program Guides.

RESULTS AND POTENTIAL UTILIZATION

The products of this effort will be added to the State's inventory of Career MAP and Program Guide titles. The Program Guides are entered into a word processing system and could be updated on demand.

The products, when implemented, should result in:

1. better programs;
2. improved planning for vocational education programs;
3. higher consistency among programs in
   a. curriculum content, and
   b. competency of completing students;
4. an improved means for documenting student achievement;
5. an improved means for updating programs on a continuing basis; and
6. an improved means for identifying teacher updating needs.

INTRODUCTION

The Division of Vocational Education of the Florida Department of Education requested that the University of South Florida assist in the development and preparation of Career Merit Achievement Plans (Career MAPs) and Program Guides for each of twenty occupational program areas. The activity over the last two years was in the following areas:

CAREER MAPs

Career MAPs were developed for each of the following occupational areas:

1. (IN15.010200) Office Machine Maintenance
   (.) Commercial Business Machine Maintenance

2. (IN15.030400) Laser Electro-Optics Technology

3. (IN15.040400) Instrumentation Technology
   (IN47.030100) Instrument Repair

4. (IN48.010100) General Drafting
   (IN48.010200) Architectural Drafting
   (IN48.010300) Civil/Structural Drafting
   (IN48.010400) Electrical/Electronics Drafting
   (IN48.010500) Mechanical Drafting
   (IN15.020200) Drafting & Design Technology

5. (IN46.020100) Residential Carpentry
   (.) Residential and Commercial Carpentry

6. (.) Basic Welding
   (IN48.050800) Welding
   (IN15.060100) Welding Technology

7. (IN46.030200) Residential Electric Wiring
   (.) Residential and Commercial Wiring

8. (IN47.020100) Basic Air Conditioning, Refrigeration, and Heating Mechanics
   (.) Air Conditioning, Refrigeration, and Heating Mechanics
   (IN15.050100) Air Conditioning, Refrigeration, and Heating Technology

9. (IN12.040300) Cosmetology

PROGRAM GUIDES

Program Guides were developed for each of the following occupational program areas:

1. (IN15.010200) Office Machine Maintenance
   (.) Commercial Business Machine Maintenance

2. (IN15.030400) Laser Electro-Optics Technology

3. (IN15.040400) Instrumentation Technology
   (IN47.030100) Instrument Repair

4. (IN48.010100) General Drafting
   (IN48.010200) Architectural Drafting
   (IN48.010300) Civil/Structural Drafting
   (IN48.010400) Electrical/Electronics Drafting
   (IN48.010500) Mechanical Drafting
   (IN15.020200) Drafting & Design Technology

5. (IN46.020100) Residential Carpentry
   (.) Residential and Commercial Carpentry

6. (.) Basic Welding
   (IN48.050800) Welding
   (IN15.060100) Welding Technology

7. (IN46.030200) Residential Electric Wiring
   (.) Residential and Commercial Wiring

8. (IN47.020100) Basic Air Conditioning, Refrigeration, and Heating Mechanics
   (.) Air Conditioning, Refrigeration, and Heating Mechanics
   (IN15.050100) Air Conditioning, Refrigeration, and Heating Technology

9. (IN15.040100) Biomedical Equipment Technology

10. (IN15.040200) Computer Servicing Technology
    (IN47.010400) Computer Electronics.

11. (IN15.040300) Electromechanical & Robotics Technology

12. (IN15.060400) Manufacturing Technology

13. (IN47.010300) Communications Electronics

14. (IN47.010301) Electronic Consumer Products Servicing

15. (IN47.010600) Residential Appliances and Refrigeration Repair
    (.) Major Appliances and Refrigeration Repair

16. (IN47.019901) Avionics

17. (IN47.019904) Telephony Technology (Requirement cancelled by Program Director, Vocational Division, No program in Florida.)

18. (.) Printing
(IN48.020100) Printing and Graphic Arts
(IN50.080100) Graphic Arts Technology

19. (IN49.020500) Commercial Vehicle Driving

20. (.) Commercial Foods
(IN20.010200) Commercial Foods and Culinary Arts

The Program Guide content was organized in accordance with established Division of Vocational Education format. Each Program Guide consists of:

1. Introduction
2. Legal Authority
3. Program Planning Process
4. Florida's Comprehensive Program Structure and the Relationships of this Program or Course
5. Program Development
6. Program Review and Evaluation
7. Program Craft Advisory Committee
8. Occupation Description
9. Student Admissions Criteria
10. Program or Course Standards and Description
11. Vocational Student Organization
12. Certification
13. Qualifications
14. Facility Design Criteria
15. Suggested Equipment List
16. Instructional Materials and Audio Visual Aids
17. Safety Regulations and Standards
18. Professional Organizations and Support Services

METHODOLOGY

Florida is involved in a major effort to implement competency-based vocational education (CBVE). The focus of this movement is on providing each learner with the specific skills and knowledge required to obtain and hold a job in the field of his or her choice.

The requirements of CBVE have major implications for the roles that teachers and students perform and for kinds of skills that teachers need.

The primary purpose of each guide is to serve as a reference for vocational education administrators and instructors charged with the responsibility for offering vocational education programs. Each guide will serve to identify the major concerns that should be considered in the organization, operation, and evaluation of vocational education programs or courses.

The several major steps necessary to achieve the objectives of this project were:

1. Establish Craft Advisory Committees. Craft advisory committees comprised of industry incumbent workers and vocational education administrators and instructors were formed and used extensively in the development and review of the information contained in the project documentation.

2. Review Literature on Existing Documentation and Research Related to Program Guide Development. The review revealed much information that could be incorporated in the final product. The format used, however, is the adopted Florida format used in other vocational areas.

3. Identify Existing Performance Standards and Program Guide Development Activities. Visits to CBVE programs in Canada and the United States revealed activity in curriculum content but lesser activity in resources planning.

4. Develop and Revise or Update Occupational Proficiency Performance Standards (OPPS). The craft advisory committees made a major contribution to the development of industry validated competencies in these occupational program areas. The Program Guides will include copies of the latest Florida adopted standards. The Program Guides and Career MAPs will list other competencies in addition to the minimum standards of OPPS.

5. Design Instruments to Provide Career Merit Achievement Plan Models. The Career Merit Achievement Plan (Career MAP) model was designed to facilitate career planning, counseling, articulation, and communication by depicting the skill achievement and progress of the student on a competency by competency basis.

6. Develop Program Guides in a Minimum of Twenty Occupational Areas. Twenty areas were selected. These were identified previously in the INSTRUCTION section as items 1 through 20. Item 17, Telephony Technology, was not completed on direction of the Program Director.

7. Develop a Method for Diffusion. The craft advisory committee members suggested that the success of this project would be in its acceptance by vocational administrators and instructors. Career MAPs and Program Guides are being disseminated by the Dissemination and Diffusion Section, Vocational Division, Florida Department of Education.

CONCLUSIONS

The objective to develop Career MAPs in nine areas and Program Guides in twenty areas was achieved. The Program Guide for Telephony technology was not completed since there are no programs now in existence in Florida. (The draft is retained and may be updated and printed when needed).

Career MAPs were developed for twenty-two occupational areas on the nine printed documents. Program Guides were developed for thirty-eight occupational areas on the nineteen printed documents.

Assistance was rendered to the Vocational Division in their development of Curriculum Frameworks for approximately 157 occupations.

Copies of these documents were submitted to the Project Monitor, Division of Vocational Education in June of 1983.

RECOMMENDATIONS

As a result of this project the investigators recommend that the Florida Department of Education consider:

1. The printing, dissemination, and diffusion of copies of Program Guides and Career MAPs to vocational administrators and instructors for selected program areas.

2. The concurrent development of additional Program Guides and Career MAPs in other new selected occupational program areas.